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AUTHOR Caudill, William; Frost, Lois
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ABSTRACT

Previous studies have shown that American mothers, in contrast to Japanese, do more lively chatting to their babies, and that as a result, the American babies have a generally higher level of vocalization and, particularly, they respond with greater amounts of happy vocalization and gross motor activity than do Japanese babies. Thus, it appears that because of different styles of caretaking in the two cultures, by three-to-four months of age the infants have already acquired culturally distinctive behaviors, and that this has happened out of awareness and well before the development of language. This interpretation is challengeable on two grounds: (1) behavioral differences may be genetically determined; and, (2) social change happens within a particular human group, resulting in significant shifts in baby behavior. Comparable data obtained from Japanese-American mothers of the third generation and infants can provide information to help settle both of the arguments. Naturalistic observations were made on two consecutive days during 1961-1964 in the homes of 30 Japanese and 30 white American first-born three-to-four month old infants equally divided by sex and living in intact middle-class urban families. Data on the ordinary daily life of the infant were obtained by time-sampling. The behavior of the Japanese-Americans is apparently closer to that of the Americans than that of the Japanese. (JM)

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A COMPARISON OF MATERNAL CARE AND INFANT BEHAVIOR
IN JAPANESE-AMERICAN, AMERICAN, AND JAPANESE FAMILIES

William Caudill, Ph.D.
National Institute of Mental Health
Bethesda, Maryland

Lois Frost, M.A.
Corvallis, Oregon

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William Caudill, Ph.D.
National Institute of Mental Health
Bethesda, Maryland

Lois Frost, M.A.
Corvallis, Oregon

Earlier reports from this on-going research project have dealt with a comparison of the everyday behavior of mothers and three-to-four-month old infants in middle-class homes in Japan and America (Caudill and Weinstein 1969, Caudill 1971). These earlier analyses show that the American mothers do more lively chatting to their babies, and that as a result the American babies have a generally higher level of vocalization and particularly they respond with greater amounts of happy vocalization and gross motor activity.¹ The Japanese mothers, on the other hand, do more vocal lulling, carrying and rocking of their babies, and as a result the Japanese babies are more physically passive; in addition, the Japanese babies have a greater amount of unhappy vocalization as their mothers take longer to respond to such signals for attention. Thus, because of the different styles of caretaking in the two cultures it appears that by three-to-four months of age the infants have already learned (or have been conditioned) to behave in culturally distinctive ways and that this has happened out of awareness and well before the development of language. If true, these findings have major theoretical implications for the understanding of personality development in relation to the transmission and persistence of cultural patterns of emotion, cognition, and behavior in human groups.

Two somewhat opposed arguments might be directed against the interpretation just given to the earlier findings. The first argument is that the behavioral differences between the Japanese and American infants might be due more to group genetic factors than to cultural learning or conditioning (see, for example, Freedman and Freedman 1969). The second argument is that as social change takes place in a human group, succeeding generations of mothers will care for their babies in a different fashion and that this will result in significant shifts in the behavior of the babies (see, for example, Bronfenbrenner 1958).

Comparable data obtained from Japanese-American mothers and infants can provide information to help settle both of these arguments, and this is the task set for this paper. Japanese Americans tend to marry within their own group, and hence the children of these intra-group marriages are genetically Japanese. If the first argument is the more true, then group genetic factors should remain as an important influence on the behavior of Japanese-American infants and they should be closer to Japanese than to American infants in their degree of physical passivity, lesser total vocalization, and greater unhappy vocalization.² In support of the second argument, the vast majority of Japanese immigrants came to the mainland of the United States between 1890-1924, and Japanese-American mothers are now having the third generation of babies to be born in this country. Since, as indicated more fully below, Japanese Americans have so successfully adapted to American middle-class life, the present generation of mothers ought to be rearing their babies in American style and the babies should be responding accordingly; that is, the Japanese-American infants

should be closer to American than to Japanese infants in their degree of high physical activity, greater total vocalization, and particularly greater happy vocalization.

Background of the Japanese Americans

The Japanese Americans are an extraordinarily interesting group of people to study (see Caudill 1952, Caudill and DeVos 1956, Kitano 1969). At the end of the nineteenth, and during the beginning of the twentieth, century fairly large groups of Japanese immigrated either directly to the mainland of the United States, or to Hawaii. These people called themselves Issei--meaning first generation. They came largely from farming families in the southern part of the Japanese islands, and for a short while they worked as laborers in the United States, but on the mainland they soon shifted to being independent truck and garden farmers and small businessmen in and around the major cities of California, Washington, and Oregon. At first the immigrant Issei were largely men, but as they found that they were not going to return to Japan, they arranged for marriages in their home prefectures and the brides came to join them in the United States.

At the beginning of World War II the Japanese Americans on the Pacific Coast numbered about 130,000 persons (with an additional 160,000 persons in Hawaii). By this time the citizen children of the Issei, known as Nisei--meaning second generation--had achieved a very high educational level and were in their early to mid-twenties when war broke out. During the war, the Japanese Americans were first placed in relocation camps, and later allowed to migrate to Middle Western and Eastern cities, but could not return to the Pacific Coast until after the war. The Nisei made an

outstanding record in the armed services of the United States.

Both during and after World War II, the Nisei moved quickly into predominantly white collar and professional occupations and established themselves as solidly middle class. They were able to do this, despite highly visible racial differences, because of the high degree of compatibility between Japanese and American middle-class values--both cultures emphasizing at that time educational attainment, hard work, and long-range goals (see Caudill and DeVos 1956). The phrase "compatibility of values" is important because although the values of the Nisei and those of middle-class Americans were similar, they were far from being the same. Americans looking at the Nisei thought that they were just like themselves when, in considerable part, the Nisei were operating on a Japanese set of values that worked very well in the middle-class American world.

By 1970 the Nisei were well into middle age, and their children, known as Sansei--meaning third generation--also had achieved a very high educational level, and were beginning to establish their own families. The children in these families are known as Yonsei--meaning fourth generation--and this article is concerned with the behavior of Sansei mothers and their Yonsei babies.

At the present time many of the Sansei are critical of their Nisei parents for being so establishment-minded and so successful in the white American middle-class world; and some of the Sansei, at least on university campuses, are beginning to try to form themselves into a radical group. As a group, however, the Sansei have come rather late to radicalism and are rather mild in their demonstration of it compared with their Black, Spanish-

American, and White counterparts. Most of those Sansei who have graduated from high school and college, established families, and are working in white collar and professional jobs, give every evidence of being law-abiding middle-class American citizens.

Given the foregoing historical background, the Sansei should in the area of family life and child rearing look very much like middle-class Americans. At the same time, and in light of the compatibility rather than identity of values discussed earlier, it could be expected that a good many Japanese ideas on how to care for and rear children will have been passed down, largely out of awareness, from Issei to Nisei to Sansei mothers. In research terms, then, the expectation is that the behavior, both of Sansei mothers and their Yonsei babies will, for the most part, be closer to that of the American sample, but in some regards there will still be evidence of a Japanese cultural heritage.³

Sample Populations and Method

The Japanese and American samples have been fully described in Caudill and Weinstein (1969). In general, naturalistic observations were made on two consecutive days during 1961-1964 in the homes of 30 Japanese and 30 white American first-born, three-to-four month old infants equally divided by sex, and living in intact middle-class urban families. Data on the ordinary daily life of the infant were obtained by time-sampling, one observation being made every fifteenth second over a ten-minute period in terms of a pre-determined set of categories concerning the behavior of the mother (or other caretaker) and the behavior of the infant, resulting in a sheet containing 40 equally spaced observations. There was a five-minute break

between observation periods, and ten observation sheets were completed on each of the two days, giving a total of 800 observations for each case. In the analysis already published, these data were analyzed by multivariate analysis of variance using three independent variables: culture (Japanese, American), father's occupation (salaried, independent), and sex of infant (male, female). The effects of each of these independent variables were examined while controlling on the other two variables, and culture proved overwhelmingly to be the most important variable. Interactions between the independent variables revealed nothing of importance. Essentially the same methods of data analysis are used in arriving at the results reported in this article, except that, for reasons given below, only culture and sex of infant are used as independent variables.

The Japanese-American sample was gathered by the junior author, Lois Frost, after she had read the article by Caudill and Weinstein (1969). Using the same methods, she carried out observations during 1969-70 in Sacramento, California, in the homes of 21 Sansei mothers having a three-to-four month old Yonsei baby (in general, see Frost 1970). All of the Sansei families are middle class as measured by the occupation and education of the father, and the education of the mother. By occupation, 11 of the fathers have professional and managerial positions, 7 are white collar and clerical workers, and 3 are in skilled trades; by education, 10 of the fathers are college graduates, 4 have some college training, and 7 are high school graduates. By education, 8 of the mothers are college graduates, 11 have some college training, and 2 are high school graduates. All of the fathers work as salaried employees in large businesses, and

for this reason the classification by father's occupation into salaried and independent families is omitted as a variable in the analyses in this article.⁴

Among the 21 Yonsei infants, 7 are male and 14 are female, and 11 are first-born and 10 are later-born. Because the sex distribution is more equal and all infants are first-born in the Japanese and American samples, we did a complete internal analysis of the Japanese-American data using sex and birth order as independent variables. The results are almost entirely negative.⁵ We feel it is possible, therefore, to make a direct comparison of the data from the three cultural groups.

After the junior author had collected her data, she wrote to the senior author informing him of her study. He then arranged to visit her for consultation and for the purpose of doing a reliability check. In January, 1971, the two authors carried out observations together in the homes of four infants in order to obtain data for testing inter-observer reliability and for the standardization of scores on the dependent variables used in describing infant and caretaker behaviors. The terms "caretaker" and "mother" are used as interchangeable in this paper because the caretaker was the mother in over 90 per cent of the observations in each of the three cultures. Table 1 gives the names of the dependent variables used in the analyses along with an estimate of their reliability and the weights used for standardization of scores.

(Insert Table 1 about here)

The names of the dependent variables are fairly self-explanatory, and have been defined in detail in previous publication (Caudill and Weinstein

1969). The junior author used these detailed definitions in collecting her data (see Frost 1970). A brief explanation of the variables is, however, useful for the reader. Starting with the infant behaviors, "awake" is reciprocal with "asleep" and therefore only the scores for "awake" are used here. "Breast or bottle" must be in the infant's mouth at the time of observation in order to be scored. "All food" is a composite variable combining the additive variables of "breast or bottle" and "semi-solid food" such as commercially prepared baby foods, crackers, biscuits, and so forth which must be in the infant's mouth at time of observation. Since there is very little use of semi-solid food at three-to-four months of age in Japan, we do not include this variable here, but rather use the composite variable of "all food." "Finger or pacifier" denotes all such actions as sucking on a finger or hand, or sucking on other objects such as a pacifier or the edge of a blanket. "Total vocal" is a composite variable combining the additive variables of "unhappy" and "happy" vocalizations which must be distinctive voiced sounds; other sounds such as hiccups and coughs are not scored as vocalization. "Active" means gross bodily movements, usually of the arms and legs, and does not include minor twitches or startles. "Baby plays" is a composite variable meaning that the baby was playing with an object at the time of observation which was either a "toy," his "hand" or other part of his body, or an "other object" such as a blanket or the edge of a crib. The three additive detailed variables are combined here into the composite variable of "baby plays."

Turning to the caretaker behaviors, "presence of" means that the caretaker must be able both to see and hear the baby at the time of observation.

"Feeds" means that the caretaker is offering the infant the breast, bottle, or food. "Diapers" is restricted to the checking for wetness and the taking off and putting on of the diaper and its cover, plus assisting the baby to urinate or defecate, and the cleaning, powdering, and oiling of the baby's body. All other removal, putting on, or rearranging of clothing is scored as "dresses." "Positions" is the manipulation of the baby's body to make him more comfortable. "Pats or touches" is a combined variable meaning rhythmic stroking or patting as in burping, or that the caretaker's hand is resting on the baby's body with the apparent intent of soothing. "Other care" is a general category including other caretaking acts such as adjusting the covers under which the baby is lying, wiping his face, or taking his temperature. "Plays with" means that the caretaker is attempting to amuse or entertain the baby by such acts as playing peek-a-boo, showing the baby a toy, and so forth. "Looks at" means that the caretaker is specifically directing her visual attention to the baby. "Talks to" is a composite variable combining the additive variables of "chats" and "lulls." "Chats" means that the caretaker is talking or singing to the baby in a lively fashion; "lulls" is a very delimited behavior, and means that the caretaker is softly humming or singing a lullaby, or making repetitive comforting noises, with the apparent intent of soothing and quieting the baby or getting him to go to sleep. "In arms" means that the baby is being held in the caretaker's arms or lap, or is being carried by the caretaker. "Rocks" includes all conscious acts of the caretaker to cause the baby to sway rhythmically back and forth; it is not scored when the infant is being carried and is merely being moved up and down by the normal walking motion

of the caretaker.

In assessing the reliabilities shown in Table 1 we used the severe criterion of requiring agreement as to the presence of a particular behavior at the level of the individual observation. Because of the visual difficulty, however, under conditions of actual observation of picking the correct column for time on the form in which to check the presence of a behavior, we counted agreement if the two observers had checked the same column or contiguous columns for the presence of a particular behavior. In some places in the raw data for the reliability check, the observers have obviously recorded the same behavior for the infant and caretaker over a ten-minute sheet of 40 columns but are consistently off one column across the entire sheet.

In general the reliability of the dependent variables is satisfactory in each of the three cultures. Altogether there are only three instances in which reliability is poor: a level of 49 per cent in the Japanese data and of 56 per cent in the Japanese-American data on "positions," and a level of 59 per cent in the Japanese-American data on "pats or touches." In part, satisfactory reliability is related to the frequency of occurrence of a dependent variable, and the relative frequency of occurrence of the behaviors of infant and caretaker can be seen in the tables given later in the discussion of the findings.

As pointed out in earlier publication (Caudill and Weinstein 1969), a variable can be satisfactorily reliable and still be "biased." That is, compared to the scores of a constant observer (Caudill in all three cultures), separate observers in each culture (Notsuki for the Japanese, Weinstein for the American, and Frost for the Japanese American) may differ proportionately

from the constant observer in the same or in opposite directions. For example, on "total vocal" Caudill had 104 per cent as many scores as Notsuki, 86 per cent as many as Weinstein, and had the same proportion, 100 per cent, as Frost. In order to eliminate these differences where present, the scores of the separate observers are standardized to those of the constant observer. Thus, in the example given for "total vocal" Notsuki's scores are increased by a weight of 1.04, Weinstein's are decreased by a weight of .86, and there is no change in Frost's scores. The weights used to standardize the scores for the dependent variables across the three cultures can be seen in Table 1. Without standardization, it is quite possible to have satisfactory reliability among observers within several cultures, but not to know whether the general perception of the observers is the same or different across cultures.⁶

In this article we are primarily interested in the relative position of the Japanese Americans in comparison with the other two cultural groups on each of the behaviors of infant and caretaker considered singly. Thus, our main technique of analysis was an analysis of variance in which the dependent variables were the behaviors of infant and caretaker, and the independent variables were sex of infant and cultural group.⁷ In examining the effects of one independent variable we always controlled for the effects of the other. For each dependent variable we made a series of all possible paired-group comparisons (Japanese and American, Japanese and Japanese American, and American and Japanese American).⁸ We also did a Pearsonian correlational analysis of the dependent variables for each culture in order to look at patterns of intercorrelation, and we will make a limited use of these patterns in reporting our findings.

Findings

In all three sets of paired comparisons for the dependent variables none of the interactions between the independent variables are significant, and there are no findings by sex of infant. Cultural differences, however, are highly significant as can be seen in Tables 2 and 3. The mean frequencies given for the dependent variables in the tables represent their average occurrence over 800 observations for each case, and all significant differences between cultural groups are reported on the basis of a two-tailed test.⁹

The findings for the dependent variables by cultural group are reported on two separate tables because earlier published comparisons of Japanese and Americans (Caudill and Weinstein 1969) showed that the dependent variables divided into two groupings which we called a) the expression and caretaking of the infant's "basic biological needs," and b) "styles of behavior" by the infant and caretaker. In general, the Japanese and Americans showed no difference in the first grouping, but were distinctively different in the second grouping. We expected that the Japanese Americans would also show no difference in the expression and care of the infant's basic needs, and would be closer to the Americans in styles of behaving. On the whole, the results are as expected, but with some surprises, particularly in the case of basic needs.

(Insert Table 2 about here)

On Table 2 it can be seen that there are no differences in any of the paired comparisons for the amount of time the baby is "awake," and this argues for the biological similarity of the infants with regard to the needs for sleep and awakeness. There also are no statistical differences

or the amount of time spent in the intake of milk from "breast or bottle," although the Japanese-American mean is the highest on this variable. On the intake of "all food," however, the Japanese-American babies are significantly greater than the babies in either of the other groups. The reason for this is obviously due to the greater intake of "semi-solid food" (which is the difference between the means for "breast or bottle" and "all food") by the Japanese-American babies when coupled with their higher mean on breast or bottle."

From the above results it is clear that the Japanese-American mother is making a greater use both of milk and semi-solid food in the feeding of her baby, and this shows up in the finding that the Sansei mother is greater than either the Japanese or the American mother on the variable of "feeds." The Sansei mother appears to have taken on the American pattern of a greater use of semi-solid food without having given up the Japanese pattern of a somewhat greater use of milk, and thus she appears as a sort of super-caretaker in the matter of feeding. Given this finding, it is not surprising that the Sansei mother is also doing more diapering than the mothers in the other two groups, and also has a higher mean on patting and touching as a large part of the behavior included under this latter variable consists of burping the baby.

On the remaining variables in Table 2, there are no differences in the paired comparisons on the variable of "looks at," and the Sansei mother is intermediate between the Japanese and American mothers in the amount of time she is in the "presence of" her baby. The significantly lesser amount of time spent by the Sansei mother in dressing her baby compared

with the mothers in the other two groups is probably related to differences in climate; observations were evenly spaced throughout the year in all three cultures, and on the average it is colder in Tokyo and Washington, D.C., than it is in Sacramento. Thus, the Yonsei baby was probably more lightly clothed during the winter months. The same reasoning is applicable for the Sansei mother's lower mean on "other care" as this variable includes such behavior as adjusting bedclothes, wiping runny noses, and so forth.

(Insert Table 3 about here)

Turning to Table 3, the main variables of interest in terms of the questions with which we began this paper are the vocalization and activity of the infant, and the verbalization to the infant by the caretaker. As can be seen, the Yonsei baby is more like the American than the Japanese baby in his greater amount of happy vocalization and physical activity, and in his lesser amount of unhappy vocalization. Equally, the Sansei mother is more like the American than the Japanese mother in the greater amount of chatting she does to her baby. Moreover, the infant's happy vocalization and the caretaker's chatting to infant are significantly correlated in the American (.39, $p < 0.05$) and Japanese-American (.57, $p < 0.05$) data, but are not so in the Japanese data (-.09, n.s.). These results indicate that American and Sansei mothers are making a greater, and more discriminative (see Caudill 1971), use of their voices as a means of communicating with the babies and the babies respond accordingly--the more the mother chats to the baby, the more he is happily vocal. The Sansei mothers are also more like the American mothers in several other regards--they do more positioning and less rocking of their babies than do the Japanese mothers. Thus, the major

finding from Table 3 is that the Japanese-American mothers and infants are closer in their style of behavior to their American than to their Japanese counterparts.

In some respects, however, the data in Table 3 also show that the Japanese-American mothers and infants have retained certain patterns of behavior from their Japanese cultural heritage. The Sansei mother is more like the Japanese mother in the greater amount of time she spends in playing with her baby, and this finding is probably related to the finding that the Yonsei baby is more like the Japanese baby in playing less by himself. In addition, the Yonsei and Japanese babies are alike in that they do less non-nutritive sucking on "finger or pacifier" than do the American babies. Finally, the Sansei mother is more like the Japanese mother in doing more carrying of the baby in her arms and lulling.¹⁰

Conclusion

In general, the main conclusion to be drawn from these data is that the behavior of the Japanese-American mothers and infants is closer to that of the Americans than to that of the Japanese. This is particularly true for the great amount of lively chatting the Sansei mother does to her baby who, in turn, responds with increased happy vocalization and physical activity.

In answer to the arguments with which we began this paper, it would seem, first of all, that the greater activity and happy vocalization of the American baby in contrast to the Japanese baby do not seem to be genetic in origin because the Yonsei baby is like the American baby in

these regards even though he is genetically Japanese. Secondly, it would seem that both cultural change and cultural persistence are operating to influence the behavior of the Sansei mothers and their Yonsei babies. On the whole, Sansei mothers have come to behave like other American mothers, but it is also true that in some respects they act like Japanese mothers. And, as would be expected, the Yonsei babies respond appropriately and learn to behave in ways that reflect the cultural style of their parents.

Footnotes

1. In the analyses presented in Caudill and Weinstein (1969) for the total 800 observations for each case, the American infants are generally greater than the Japanese infants in total vocalization (means are A116 and J94, partial correlation is .25, $p < 0.058$), and are definitely greater in happy vocalization (means are A59 and J30, partial correlation is .51, $p < 0.001$), and in gross motor activity (means are A95 and J51, partial correlation is .45, $p < 0.001$). These same findings are even clearer (all at $p < 0.001$) when the analyses are restricted to those observations in which the caretaker and infant are in direct interaction (called State One in Caudill and Weinstein, 1969).
2. Beyond the possible influence of group genetic factors, the question of the effects of nutritional differences might be asked concerning the feeding of babies among Japanese, Americans, and Japanese Americans. Roughly speaking, there is greater use of breast feeding for a longer period after birth among Japanese mothers and they also delay the introduction of semi-solid food longer (usually until about the beginning of the third month) than do American or Japanese-American mothers (who start semi-solid food at about the end of the first month). In terms of the nutritional adequacy of the infant's diet, however, there is probably little difference among the three groups since all of the families in each group are urban, middle-class, and without serious economic problems.

3. For a more general discussion, supported by research data, of this question of ethnic identity across three generations of Japanese Americans see Masuda, Matsumoto, and Meredith (1970).
4. The distinction between working as a salaried employee in a large business and working as an owner or employee in a small business is an important one in Japan and has a meaningful influence on the nature of interpersonal relations in the family. For this reason we designed the study of American and Japanese infants to include this distinction as an independent variable. In the analysis of the American and Japanese data (see Caudill and Weinstein 1969) this variable proved to be of no importance in the American families, and to be of only minor, but still meaningful, importance in the Japanese families where the caretakers in the Japanese independent business families were more present and doing more talking to, carrying, and rocking of their babies who, probably as a consequence, were more awake.
5. In the internal analysis of the Japanese-American data no interactions are significant, and there are no findings by sex of infant. There is a hint, when the dependent variables are considered singly, that first-born Yonsei infants may be more active, happily vocalizing, and playing by themselves than are later-born infants; but, none of the canonical correlations are significant when the entire group of infant dependent variables are considered collectively.
6. In analyzing the data for this paper, we ran all comparisons using

both the raw scores and the standardized scores, and empirically there was no difference in the patterning of the results between the two methods. Such empirical findings, however, have nothing to do with the logical reasons for standardization.

7. The computer program we used is called MANOVA, and is described in Clyde, Cramer, and Sherin (1966).
8. Before doing our paired comparisons of the three cultural groups, we also ran an analysis using all three cultures (Japanese American, Japanese, American) and sex of infant (male, female) as independent variables in one analysis in order to assure ourselves that we were not capitalizing on extremes in making our paired comparisons. In this overall analysis no interactions are significant, and there are no findings by sex. The comparisons by culture are highly significant, but the similarities and differences between cultural groups appear more clearly in the paired-group analyses.
9. The mean frequencies and levels of significance for the dependent variables given in Tables 2 and 3 for the Japanese and American groups differ slightly from those reported earlier in the article by Caudill and Weinstein (1969) because the results in the tables are only controlled for the effects of sex of infant, whereas in the earlier analysis the results were controlled for the effects both of sex of infant and father's occupation (as salaried or independent).
10. The Japanese pattern of soothing the baby and getting him to go to

sleep is usually a combination of carrying in arms while also lulling and rocking. The Sansei mother seems to have given up rocking, but she still carries and lulls the baby more than the American mother. Frost's more qualitative notes which were made in addition to her quantitative observations provide a number of illustrations of such behavior. For example: "Mrs. H. does not rock her child to sleep, but she plays soft music, holds him in her arms, and dances with him until he falls asleep. She does this before both his morning and afternoon nap. She says that sometimes she spends as much as an hour dancing with him."

Table 1

OBSERVER RELIABILITY AND WEIGHTS USED FOR STANDARDIZATION
OF FREQUENCIES OF OBSERVATIONS ACROSS CULTURES

<u>Dependent Variables</u>	<u>Average Percent Agreement per Case*</u>			<u>Weight Used for Standardization†</u>		
	<u>Japanese</u> (7 cases)	<u>American</u> (3 cases)	<u>Japanese American</u> (4 cases)	<u>Japanese</u> (7 cases)	<u>American</u> (3 cases)	<u>Japanese American</u> (4 cases)
<u>Infant Behavior</u>						
Awake	98	100	100	--	--	--
Breast or Bottle	99	100	97	--	--	--
All Food	99	99	98	--	.98	--
Finger or Pacifier	92	84	85	--	.94	1.02
Total Vocal	91	80	73	1.04	.86	--
Unhappy	89	88	73	1.05	1.07	.97
Happy	70	70	72	1.10	.64	1.04
Active	69	74	77	.91	.75	.90
Baby Plays	85	93	75	.96	1.07	1.28
<u>Caretaker Behavior</u>						
Presence of	99	100	100	--	--	--
Feeds	99	100	99	--	--	--
Diapers	95	96	94	.98	.93	1.09
Dresses	84	99	85	1.06	1.03	1.17
Positions	49	77	56	1.75	.71	.62
Pats or Touches	78	87	59	.82	.84	.69
Other Care	85	85	72	.97	.86	.80
Plays with	67	86	85	1.34	1.16	.93
Looks at	94	90	99	--	1.06	--
Talks to	90	83	88	--	.83	.94
Chats	90	83	89	--	.83	.96
Lulls	94	100	78	--	--	--
In Arms	100	99	97	--	--	--
Rocks	90	88	91	.95	--	1.02

*Agreement between two observers as to the presence (Yes) or absence (No) of a behavior is classified within four cells: (a) Yes/Yes, (b) Yes/No, (c) No/Yes, (d) No/No. Percent agreement is computed as the ratio of (2a) to (2a + b + c), thus avoiding the use of the somewhat spurious agreement on absence of behavior.

†Weight used to standardize frequencies across cultures is computed as the ratio of (Sum of Caudill's Presence Scores) to (Sum of Other Observer's Presence Scores).

Table 2

PAIRED CULTURAL COMPARISONS OF VARIABLES RELATED
TO CARE OF THE INFANT'S BASIC NEEDS

<u>Dependent Variables</u>	<u>Mean Frequencies</u>			<u>Cultural Comparisons</u>		
	<u>Japanese</u> <u>(30 cases)</u>	<u>American</u> <u>(30 cases)</u>	<u>Japanese</u> <u>American</u> <u>(21 cases)</u>	<u>Japanese</u> <u>and</u> <u>American</u> <u>p <</u>	<u>Japanese</u> <u>and</u> <u>Japanese</u> <u>American</u> <u>p <</u>	<u>American</u> <u>and</u> <u>Japanese</u> <u>American</u> <u>p <</u>
<u>Infant Behavior</u>						
Awake	499	489	511			
Breast or Bottle	66	55	77			
All Food	68	74	112		0.001	0.05
<u>Caretaker Behavior</u>						
Presence of	549	414	489	0.01		
Feeds	74	70	113		0.01	0.01
Diapers	23	17	38		0.001	0.001
Dresses	13	13	4		0.001	0.001
Pats or Touches	34	46	53		0.05	
Other Care	17	23	11			0.05
Looks at	247	293	288			

Table 3

PAIRED CULTURAL COMPARISONS OF VARIABLES RELATED
TO STYLES OF BEHAVING

<u>Dependent Variables</u>	<u>Mean Frequencies</u>			<u>Cultural Comparisons</u>		
	<u>Japanese</u> (30 cases)	<u>American</u> (30 cases)	<u>Japanese</u> <u>American</u> (21 cases)	<u>Japanese</u> <u>and</u> <u>American</u> p <	<u>Japanese</u> <u>and</u> <u>Japanese</u> <u>American</u> p <	<u>American</u> <u>and</u> <u>Japanese</u> <u>American</u> p <
<u>Infant Behavior</u>						
Finger or Pacifier	70	170	45	0.001		0.001
Total Vocal	95	115	135		0.05	
Unhappy	67	44	27	0.01	0.001	0.05
Happy	30	59	111	0.001	0.001	0.001
Active	51	95	111	0.001	0.01	
Baby Plays	83	170	102	0.001		0.05
<u>Caretaker Behavior</u>						
Positions	9	19	25	0.001	0.001	
Plays with	40	23	71	0.05	0.05	0.001
Talks to	104	121	214		0.001	0.001
Chats	80	119	205	0.01	0.001	0.001
Lulls	23	2	14	0.001		0.01
In Arms	204	132	193	0.05		0.05
Rocks	49	17	17	0.01	0.05	

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